

CLAIMS

1. The use of an agent which promotes tyrosine protein dephosphorylation in the preparation of a medicament for reducing permeability of a physiological barrier such as the blood-brain barrier.
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2. The use as claimed in claim 1, wherein the agent directly or indirectly activates tyrosine protein phosphatase and/or directly or indirectly inhibits tyrosine kinase.
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3. The use of an agent which promotes tyrosine protein phosphorylation in the preparation of a medicament for increasing permeability of a physiological barrier such as the blood-brain barrier.
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4. The use as claimed in claim 3, wherein the agent directly or indirectly inhibits tyrosine protein phosphatase and/or directly or indirectly activates tyrosine kinase.
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5. The use as claimed in any one of claims 1 to 4, wherein the phosphorylation or dephosphorylation promotion effect of the agent is reversible or sufficiently reversible to avoid untoward toxicity problems.
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6. The use as claimed in claim 4 or 5, wherein the agent is a vanadium-containing salt.
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7. The use as claimed in claim 6, wherein the agent is a pervanadate.
- 35 8. The use as claimed in claim 4, wherein the agent is phenylarsine oxide.

9. The use as claimed in any one of claims 1 to 8, wherein the tyrosine phosphorylation or dephosphorylation involves one or more components of the cadherin/catenin complex.

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10. The use as claimed in any one of claims 1 to 8, wherein the tyrosine phosphorylation or dephosphorylation involves E-cadherin, N-cadherin, P-cadherin, β -catenin, ZO-1, ZO-2, p100 or p120.

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11. The use as claimed in claim 9, wherein the tyrosine phosphorylation or dephosphorylation involves β -catenin, ZO-1, ZO-2, p100 or p120.

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12. The use of an agent which promotes tyrosine protein dephosphorylation in the preparation of a medicament for decreasing brain oedema, such as following stroke or associated with brain tumours.

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13. The use of an agent which promotes tyrosine protein dephosphorylation in the preparation of a medicament for treating or preventing peripheral oedema, such as high altitude pulmonary oedema.

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14. The use of an agent which promotes tyrosine protein dephosphorylation in the preparation of a medicament for blocking the entry into the brain of leukocytes that mediate an immune response.

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15. The use of an agent which promotes tyrosine protein dephosphorylation in the preparation of a medicament for treating multiple sclerosis.

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16. The use of an agent which promotes tyrosine protein dephosphorylation in the preparation of a medicament for preventing cancer metastasis.

17. The use of an agent which promotes tyrosine protein phosphorylation and the use of a blood-brain barrier- or other physiological barrier-impermeant drug in the preparation of a medicament for delivering the drug to the brain or other part of the body (such as a tumour) 5 the other side of the barrier.
18. The use of an agent which promotes pulmonary epithelial cell tyrosine protein phosphorylation in the preparation of a medicament for treating or preventing 10 accumulation of mucous in the airways.
19. The use of an agent which promotes tyrosine protein dephosphorylation in the preparation of a medicament for 15 treating gastric ulcers.
20. A composition comprising an agent which promotes tyrosine protein phosphorylation and a drug to be delivered across a physiological barrier such as the 20 blood-brain barrier.